09/446,320
IN THE CLAIMS

This listing of the claims will replace all prior versions, listings, of claims in the application:

Claim 1 (canceled)

Claim 2 (previously presented): The redundant serial bus of Claim 12
wherein the input stage has means for synchronization and filtering.

Claim 3 (previously presented): The redundant serial bus of claim 12 wherein the input stage has means for serial/parallel conversion.

Claim 4 (previously presented): The redundant serial bus of Claim 3,
wherein the output stage has means for parallel/serial conversion.

Claim 5 (previously presented): The redundant serial bus of Claim 12
wherein the means in said evaluation stage for determining criteria of the data stream also includes means for time evaluation, for assessment of the state of the receiving lines and for line selection.

Claim 6 (previously presented): The redundant serial bus of claim 12 wherein the redundancy means which can be connected upstream can be permanently set to one bus line on the receiving side.

Claim 7 (previously presented): The redundant serial bus of claim 12 wherein the redundancy means which can be connected upstream can be permanently set to one bus line on the transmitting side.

Claim 8 (previously presented): The redundant serial bus of Claim 7,
wherein each driver comprises a gate circuit for muting the driver output.

Claim 9 (previously presented): The redundant serial bus of claim 12 wherein at least one selected bus subscriber

is equipped with a diagnosis interface for connection of control lines.

Claims 10-11 (canceled)

Claim 12 (previously presented): A redundant serial bus having n>1 parallel bus lines for redundant networking of bus subscribers each having a single bus communications interface, comprising:

a redundancy means, which can be connected upstream, having n interfaces for connection to said n parallel bus lines and one interface for connection to the single bus communications interface of at least one bus subscriber,

said redundancy means which can be connected upstream having a receiving end comprising an input stage at least for each of said bus lines, an evaluation stage and an output stage for all the bus lines,

the evaluation stage has means for determining criteria of a data stream other than the presence or absence of data for a period of time and the content of said data stream for selecting one of the bus lines as the receiving line based on said criteria, and

the redundancy means which can be connected upstream having a transmitting end comprising a driver for each of said bus lines.

Claim 13 (previously presented): In a redundant serial bus having n>1 parallel bus lines for redundant networking of bus subscribers each having a single bus communications interface, comprising:

a redundancy means, which can be connected upstream, having n interfaces for connection to said n parallel bus lines and one interface for connection to the single bus communications interface of at least one bus subscriber,

said redundancy means which can be connected upstream having a receiving end comprising an input stage at least for each of said bus lines, an evaluation stage and an output stage for all the bus lines,

the evaluation stage has means for determining criteria of a data stream other than the presence or absence of data for a period of time and the content of said data stream for selecting of one of the bus lines as the receiving line based on said criteria, and

the redundancy means which can be connected upstream having a transmitting end comprising a driver for each of said bus lines;

a method for operating said redundant serial bus, comprising:

sending, during operation, identical message packets in parallel and at the same time to all of said bus lines,

receiving the identical message packets on all of said bus lines in parallel by the redundancy means which can be connected upstream,

checking the determined criteria of the data streams of the received message packets; and

selecting depending on the determined criteria, one of the bus lines, whose data stream is passed on to the connected bus subscriber.

Claim 14 (previously presented): The method of claim 13 further comprising sending and receiving said message packets on one of said bus lines in order to diagnose the redundant serial bus for a selected one of said at least one bus subscribers.